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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/864,728      | 05/24/2001  | Sandra J. Rosenthal  | N-6109              | 2786             |

7590

09/20/2002

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EXAMINER

CEPERLEY, MARY

ART UNIT

PAPER NUMBER

1641

DATE MAILED: 09/20/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/864,728

Applicant(s)

ROSENTHALL ET AL.

Examiner

Mary (Molly) E. Ceperley

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 1641

**1)** Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. \*Claims 1-7, drawn to linker arms, classified in at least classes 562, 564 and 568, several subclasses per class.
- II. \*\*Claims 8-16, are presumed to be drawn to nanocrystal-linker-ligand conjugates, classified based on the structure of the final product conjugate.
- III. \*\*\*Claim 17, drawn to a carboxylic acid derivative, classified in class 562, subclass 426.
- IV. \*\*\*Claim 18, drawn to an acyl halide derivative, classified in class 562, subclass 840.
- V. \*\*\*Claims 19-21, drawn to sulfonic acid ester derivatives, classified in class 554.

**NOTES:**

\*The "linker arms" of Invention I are incomplete compounds (i.e. **fragments**) and, as such, are not adequately defined. The definitions of "Y" and "X" being "attachment points" are inadequate to specifically identify the compounds being claimed. Claim 7, which is inconsistent with claim 1 from which it depends, recites numerous specific **complete compounds**. Claim 7 is directed to numerous patentably distinct compounds which are classified in multiple classes. For example when R = SH, class 568; when R = -NH(CH<sub>2(n)</sub>)NH)SH (question of how to make this compound?), class 564; R = -COO-, classes 560 and 562; etc. ***In the event that Invention I is elected, applicants must further elect a specific invention by electing a specific compound, i.e. electing a definition for each of the variables "Y", "R", "Z", "R2", "X" and "n" in formula (I).*** The claims of Invention I will be examined to the extent that they encompass the elected compound and any other compounds which are not patentably distinct therefrom. Further restriction among the compounds encompassed by formula (I) may be required after applicants have addressed the inconsistencies/incompleteness of the claims of Invention I as noted above. It is noted that claims 3-6 are being interpreted as being fragments which are **not** actually attached to any "biologically active compound", "organic compound" or "nanocrystal".

\*\*Invention II has the same problems noted in paragraph \* above and will be treated in the same manner as Invention I, if elected. Applicants must define all variables including a specific "organic

Art Unit: 1641

compound" and a designation of the location on the "organic compound" where it is attached to the linker in order to specify the elected *invention*.

\*\*\*For these inventions, it is unclear whether the structures are incomplete *fragments* or whether they are complete *compounds* wherein the terminal line on the left hand and/or right hand side(s) of the formula designate(s) a methyl group. Clarification is required.

**2)** Each of Inventions III-V is unrelated to each other and to each of Inventions I and II.

Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions III-V are directed to compounds containing different, unrelated functional groups as set forth above. Further, the carboxylic acid, sulfonic acid, and acyl halide functional groups of Inventions III-V do not appear as moieties in the fragments of Invention I.

**3)** Inventions I and II appear to be related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, for example, the intermediate product ethylene dithioglycol, a known compound (see the first structure of page 105 wherein R = SH), is deemed to be useful as a solvent similar in nature to ethylene glycol and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Art Unit: 1641

**4)** Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter requiring burdensome diverse searches in both the patent and technical literature, restriction for examination purposes as indicated is proper.

**5)** Applicants are advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143). ***See also, the additional requirements set forth in the NOTES above.***

**6)** Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

**7)** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary E. (Molly) Ceperley whose telephone number is (703) 308-4239. The examiner can normally be reached from 8 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, can be reached at (703) 305-3399. The fax phone number for responses to be filed BEFORE final rejection is (703) 872-9306. The fax phone number for responses to be filed AFTER final rejection is (703) 872-9307.

Questions which are NOT RELATED TO THE EXAMINATION ON THE MERITS, should be directed to **TC 1600 CUSTOMER SERVICE** at **(703) 308-0198**. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Application/Control Number: 09/864,728

Page 5

Art Unit: 1641

September 19, 2002

A handwritten signature in cursive script, reading "Mary E. Ceperley".

Mary E. (Molly) Ceperley  
Primary Examiner  
Art Unit 1641